

**In the United States Patent and Trademark Office**

Application No.: not assigned  
 Filed: filed herewith  
 Title: Method for Detecting and Classifying a Structure of Interest in Medical Images  
 Applicant(s): Burak Acar  
 Examiner: not yet assigned  
 Art Unit: not yet assigned

Mailed 9-30-03  
 Palo Alto, CA

**Information Disclosure Statement**

Commissioner of Patents and Trademarks  
 Washington, District of Columbia 20231

Dear Sir or Madam:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon.  
 It is requested that the document(s) on the enclosed form be made of record.

**Part I (Authority)**

This statement is filed pursuant to:

37 C.F.R. § 1.97(b).

This information disclosure statement is filed either (1) within three months of the filing date of the national applications; (2) within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or (3) before the mailing date of a first office action on the merits, whichever event occurs last.  
 Accordingly, this information disclosure statement requires no fee and no certification.

37 C.F.R. § 1.97(c).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(b), but before the mailing date of either (1) a final action under 37 C.F.R. § 1.113 or (2) a notice of allowance under 37 C.F.R. § 1.311.  
 Accordingly, this information disclosure statement requires either the fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) (\$240), or a certification according to 37 C.F.R. § 1.97(e).

37 C.F.R. § 1.97(d).

This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(c).  
 Accordingly, this information disclosure statement requires the petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) (\$130), a certification according to 37 C.F.R. § 1.97(e), and a petition requesting consideration of the information disclosure statement.

**Conditional Petition**

It is respectfully requested that this information disclosure statement be considered, good cause being presented in Part III herein (certification). please treat this paper as the required petition.

If this statement crosses in the mail with an office action, or is otherwise not in the indicated category of 37 C.F.R. § 1.97, it is respectfully requested that this statement be treated in the next appropriate category and made of record.

To the extent required, please treat this paper as a conditional petition for acceptance of the information disclosure statement.

## **Part II (Payment)**

A check is enclosed as indicated:

- (X) No fee is due.
- ( ) The fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) is enclosed (\$240).
- ( ) The petition fee specified in 37 C.F.R. § 1.17(i)(1) to consider an information disclosure statement under 37 C.F.R. § 1.97(d) is enclosed (\$130).

## **Part III (Certification)**

Pursuant to 37 C.F.R. § 1.97(e), I certify:

- (X) No certification is necessary.
- ( ) (1) Each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the statement.
- ( ) The "communication from a foreign patent office" referred to in the certification is an International Search Report, possibly issued by the U.S. Patent and Trademark Office in its capacity as an International Search Authority or International Preliminary Examining Authority.
- ( ) The "counterpart foreign application" referred to in the certification corresponds to an ancestor or descendent application of the application for which this information disclosure statement is filed.
- ( ) (2) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c), more than three months prior to the filing of the statement.

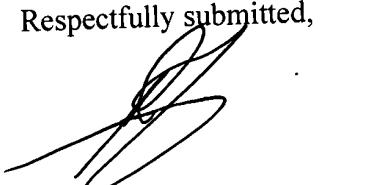
## **Part IV (Additional Statement)**

An additional statement regarding these items of information ( ) is, (X) is not, enclosed.

Copies of the cited art (X) are enclosed, ( ) are of record in parent application Serial No. \_\_\_\_\_ and will be provided if the Examiner deems it convenient.

Dated: 9 - 30 - 03

Respectfully submitted,



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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE						ATTY. DOCKET NO. S01-254/US	SERIAL NO. Not yet assigned
<b>LIST OF PRIOR ART CITED BY APPLICANT</b> (Use several sheets if necessary)						APPLICANT Burak Acar	
						FILING DATE Filed Herewith	GROUP Not yet assigned

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER						DATE	NAME	RELEVANT INFORMATION
A	6 3 3 1 1 1 6						12/18/2001	Kaufman et al	
B	2002/0039400						04/04/2002	Kaufman et al	
C	6 0 8 3 1 6 2						07/04/2000	David J. Vining	
D	5 9 2 0 3 1 9						07/06/1999	Vining, et al.	
E	5 9 7 1 7 6 7						10/26/1999	Kaufman et al.	
F	5 8 9 1 0 3 0						04/06/1999	Johnson et al.	
G	5 4 9 1 6 2 7						02/13/1996	Zhang et al.	
H	5 4 5 8 1 1 1						10/17/1995	Coin et al	

**FOREIGN PATENT DOCUMENTS**

		2-letter code	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
						YES	
	I						
	J						

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

K		D.S. Paik et al., "Detection of polyps in CT colonography: A comparison of a computer aided detection algorithm to 3-D visualization methods," in Proc. 85 <sup>th</sup> Scientific Sessions Radiological Society of North America, vol. 213 (P). Chicago, IL, 1999, p.428
		Paik et al., "Computer-aided detection of polyps in CT colonography: Free response ROC evaluation of performance," Radiology, vol. 217 (SS), p. 370, 2000
L		R.M. Summers et al., : Automated polyp detection at CT colonography: Feasibility assessment in a human population," Radiology, vol. 219, no. 1, pp. 51-59, 2001
		R.M. Summers et al., "Automated polyp detector for Ct colonography: Feasibility study," Radiology, vol. 216, no. 1, pp.284-290, 2000
M		A. H. Mir et al., "Description of shapes in CT images: The usefulness of time-series modeling techniques for identifying organs," IEEE Eng. Med. Bio. Mag., vol. 18, pp. 79-84, Jan/Feb. 1999
		PC Mahalanobis, On the generalized distance in statistics, Proc. Natl. Institute of Science of India 12:49-55, 1936
N		Lavin et al., "Feature Comparisons of Vector Fields Using Earth Mover's Distance", in Proc. Visualization, 1998, pp.103-110
		Helman et al., "Representation and Display of Vector Field Topology in Fluid Flow Data Sets", IEEE, August 1989, pp.27-36

EXAMINER	DATE CONSIDERED

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EXAMINER INITIAL		DOCUMENT NUMBER				DATE		NAME		RELEVANT INFORMATION
	A	6	2	4	6	7	8	4	06/12/2001	Summers et al.
	B	6	5	5	6	6	9	6	04/29/2003	Summers et al.
	C	6	3	0	1	3	7	8	10/09/2001	Karssemije et al.
	D	6	2	4	6	7	8	4	06/12/2001	Summers et al.
	E	20020045153				04/18/2002		Kaufman et al.		
	F	20020097320				07/25/2002		Zalis		
	G	6	3	4	5	1	1	2	02/05/2002	Summers et al
	H									
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	I								YES	NO
	J									
<b>OTHER PRIOR ART</b> (Including Author, Title, Date, Pertinent Pages, Etc.)										
	K		S.S. Beauchemin et al., "The Computation of Optical Flow", ACM Computing Surveys, Vol. 27, No. 3, September 1995, pp. 433-467							
			S.B. Gokturk et al., "A Graph method for the conservative detection of polyps in the colon," in <i>Proc. 2<sup>nd</sup> Int. Symp. Virtual Colonoscopy</i> , Boston, MA, 2000.							
	L		H. Yoshida et al., "Detection of colonic polyps in CT colonography based on geometric features," <i>Radiology</i> , vol. 217 (SS), p. 582-2000							
			H. Yoshida et al., "Three-dimensional computer-aided diagnosis scheme for detection of colonic polyps," <i>IEEE Trans. Med. Imag.</i> , vol. 20, pp. 1261-1274, Dec. 2001							
	M									
	N									
EXAMINER								DATE CONSIDERED		